

5 having 1

25

30

5

10

15

20

25

30

translating said digital words in said digital video signal to a digital video output according to one of two linear amplifications, wherein a first linear amplification exceeds a second linear amplification in gain, and said first linear amplification provides for increased gain in a darker portion of a video image, and said second linear amplification provides for reduced gain in a brighter portion of said video image.

10 8. The method of claim 7, wherein:

the step of translating uses a digital memory device to store a look-up table, and provides for a choice of first and second linear amplification gains.

15 9. The method of claim 7, further comprising the step of:

downloading and programming a new look-up table to replace said look-up table wherein an image detail in said video image is more clearly rendered.

20 10. A CCD video camera system, comprising:

a CCD-imaging device with an analog video output having a linear dynamic range;

an analog-to-digital converter (ADC) connected to receive said analog video signal and for providing a digital conversion in which said linear dynamic range of the CCD-imaging device is fully preserved through to a digital video output;

a digital translation table connected to receive said digital video output and providing for a dual-slope output conversion in which a first linear digital gain is applied to a zero-to-middle part of said linear dynamic range of the CCD-imaging device, and a second linear digital gain is applied to a middle-to-full-scale part of said linear

1
at
nd
ea

5

the digital translation table in which a multi-slope output conversion includes at least two knee-points that join said different linear digital gains.